

PERFORMANCE CONSISTENCY OF PRIVATE SECTOR BANKS IN INDIA -A DEA APPROACH

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Abstract

This paper is attempted with the objective of measuring the efficiency of Eight Private Sector Banks in India over the period of 2002 to 2013. The aim of this study is to identify the Efficient Private Sector Banks and differentiate them from Inefficient Private Sector Banks in the context of consistent performance over a period. The efficiency is done using Data Envelopment Analysis. The study shows that among the selected Private Sector Banks, ICICI Bank, KarurVysia Bank, HDFC Bank and City Union Bank, have displayed higher mean efficiency as well as consistency over a period. The study recommends that government's existing policy of privatization and liberalization should give due emphasis on consistent performance also.

Keywords: Bank Efficiency, Private Sector Banks, Consistency, Data Envelopment Analysis.

Introduction

The Reserve Bank of India and our Government has taken major steps to grant autonomy to the banking sector, through privatization and liberalization measures. By implementing series of financial reforms a competitive platform has been set for these banking institutions. More and more private players are permitted to operate banking business in India. Government is more interested in privatization of government owned banks also. This situation raises questions about: whether the private sector banks that are already in the business operate efficiently and if so how consistent they are, in their performance.

Indian Banking Sector - A review

Present day banking scenario witnesses major reforms which transform our country's economy towards global competitiveness. Our financial system has proved to be unaffected by various national and global economic meltdowns. Our banking system is one among the few healthier performers in the world. Banking sector, being the vital sectors of economic growth, has an important role to play for economic development of any country.

History of banking in India starts from the year when Bank of Hindustan was established. Another Bank named, 'Bank of Calcutta' which was established in the year 1806, the largest and oldest bank still in existence in India, presently named as State Bank of India. Now there are about 151 commercial banks with more than 1,09,811 branches and one bank for every 12,000 citizens in India. Now Indian banking sector has grown and capable of global competence. Technology has made a strong impact in favour of development of banking sector. Information Technology helped present banks by providing

software applications which enable the banks to have 360 degree view of customers encompassing their products, preferences, relationships and transaction history and thereby assisting the executives to serve their customers and cross-sell more efficiently. Creation of healthy and competitive environment in India is the major target of the Government to ensure sustainable growth in India.

This study looks at the factors which determine the performance of private sector banks. It is usual that the performance of a bank is measured through analysis of different accounting ratios such as Return on Average Assets, Cost of Funds, Net Interest Margins, Return on Investments, Net Non-Performing Assets ratio and the like. Many studies do performance measurement and compare them with other sectors like Public Sector and Foreign Sector Banks or the banks of other countries.

The present study will focus more on the efficient performance of Private Sector Banks in India and their consistency over a period.

Objectives of the Study

The present study analyses the financial performances of selected Private Sector Banks in India. Specifically the objectives of the study are:

1. To assess the financial performance of the sample private sector banks
2. To examine the efficiency level of the private sector banks.
3. To compare and identify the efficient and comparatively less efficient private sector banks.

Research Methodology

This study analyses the performance efficiency of sample private sector banks, with the relevant data collected for a period of twelve years between 2002 and 2013. The Term efficiency can be defined as the extent to which the unit under study can produce or create maximum outputs for given level of input or make use of least input for producing a given level of output.

Data

Any research study of Bank efficiency need, definition of input and output is very important. All the data used for the present study have been collected from the published and audited annual reports of the banks for the financial years from 2002 - 2013.

Inputs and outputs Selection

Data Envelopment Analysis has used different combination of inputs and outputs in different studies. This study uses Funds Deployed, Total Expenses, Business per Employee

and Net NPA as Inputs, whereas Earnings Assets, Total Income, Profit per Employee and advances as outputs.

Data Envelopment Analysis

Many studies make use of ratio analysis to measure the performance efficiency, Data Envelopment Analysis is considered as powerful tool for measuring the efficiency. Data Envelopment Analysis is a non-parametric linear programming method to evaluate the relative efficiencies of multiple units under study normally called as Decision Making Units (DMU). It offers comparative ratio for every unit under study in terms of output and input. This ratio is reflected as Efficiency Score for each DMU.

The merit of this tool is that it is a very powerful service management and benchmarking technique in which the DMU can be different branches of the same large bank, or different banks of the same region or different offices of the same bank but they should be reasonably homogeneous and separately managed. With the tool of DEA we can identify the most efficient units or best practice units and inefficient units for which the real efficiency improvements can be suggested.

In DEA methodology, Efficiency is defined as a ratio of weighted sum of outputs to weighted sum of inputs, where the weights structure is calculated by means of mathematical programming and constant return to scale (CRS) are assumed. The constant returns -to-scale is a kind of global efficiency measurement in which inefficiencies due to pure technical reasons are confounded by inefficiencies due to the scale of operations.

By identifying the most efficient banks and comparing those with inefficient banks will help us to understand the nature of inefficiencies take suitable measures to achieve efficient performance.

Analysis and Findings

With the use of data from annual reports of sample banks, this paper analysed the efficiency score of private sector banks for the year 2002 - 2013. The scores were arrived using a linear programming technique called Data Envelopment Analysis

Table 1
Efficiency Scores of Better Consistent Banks

DMU	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ICICI	1	0.89 1	0.98 3	0.97	0.98 6	0.94 5	0.91 9	1	0.92 2	0.96	1	1
KVB	1	0.92 1	1	0.87	0.97	1	1	0.88 1	0.91 1	1	0.93 6	0.95 3
HDFC	1	0.99 2	1	1	0.89 7	0.90 4	0.91	0.83 5	0.90 9	0.96 4	1	1
CUB	0.84 5	0.83 9	1	0.95 3	1	1	0.98 5	0.79 7	0.82 1	0.89 1	0.92 5	0.90 2

Figure 1
Efficiency Scores of Better Consistent Banks

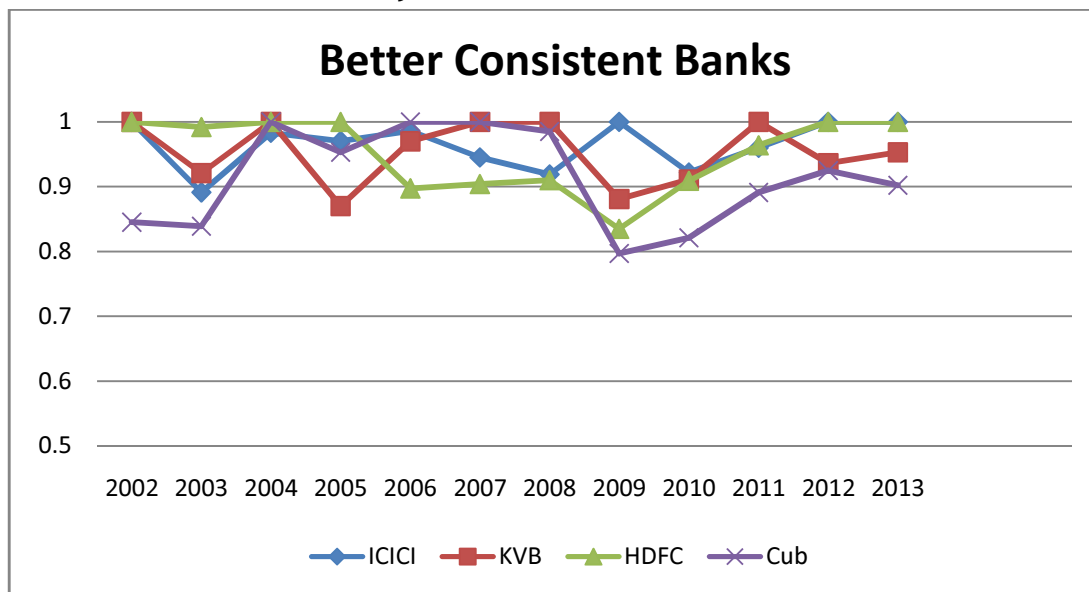


Table 1 and Figure 1 indicate that the annual efficiency score of ICICI Bank was almost best during all the years except 2003, 2008 and 2010. Out of twelve years of study ICICI Bank stood as bench mark unit for four years.

The annual efficiency scores of KarurVysia Bank were intermittently fluctuating. But in spite of ups and downs, KarurVysia bank was a bench mark unit for 5 years out of 12 years of study.

From 2002-2005 the annual efficiency scores of HDFC Bank was at the best as bench mark unit. But from 2006 onwards the efficiency level started decreasing and the trend started improving from 2010. Of the twelve years of study, HDFC Bank was a bench mark unit for 5 years.

The annual efficiency score of City Union Bank experienced an improvement in 2004 and its level was maintained upto 2008. Then in 2009 it witnessed a steep decline in efficiency and from the subsequent year onwards gradual improvement in the efficiency was witnessed.

Table 2
Efficiency Scores of Poor Consistent Banks

DMU	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Axis	0.827	0.793	0.741	0.758	0.849	0.84	0.864	0.892	0.901	0.943	0.998	0.978
Federal	0.534	0.622	0.692	0.684	0.809	0.883	0.943	0.864	0.879	0.865	0.908	0.852
South	0.587	0.639	0.697	0.652	0.768	0.81	0.896	0.756	0.873	0.891	0.967	0.851
LVB	0.725	0.73	0.759	0.64	0.812	0.835	0.815	0.82	0.678	0.841	0.802	0.798

Figure 2
Efficiency Scores of Poor Consistent Banks

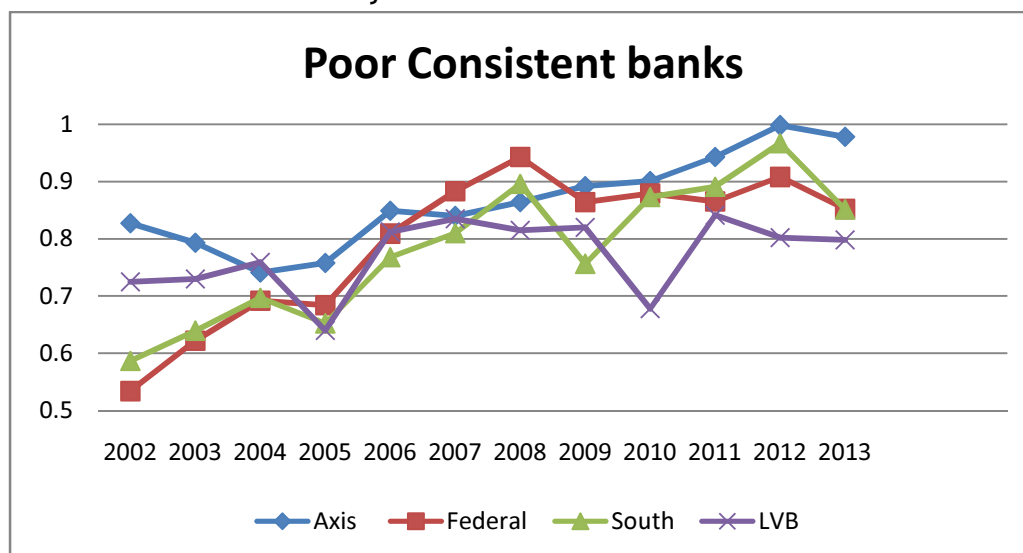


Table 2 and Figure 2 reveal that the annual efficiency score of Axis Bank experienced a declining trend during 2004 and 2005. But from the year 2006 onwards the efficiency level showed a gradual improvement except in 2013.

The annual efficiency score of Federal Bank experienced a far better improvement from 2002 to 2008. But from 2008 onwards the efficiency level showed a gradual decline except 2012.

The South Indian Bank was the poorest performer among the private sector banks under study. Even though the trend of efficiency score exhibited an increasing trend, the efficiency score started from the lower level that is 0.587. It was evident that the bank witnessed efficiency ups and downs also.

The Laxmi Vilas Bank was just above average level of efficiency and could not achieve as Bench Mark Unit during any of the study period. It is also revealed that the years 2006 and 2010 were of poor performance.

Table 3
Annualized Efficiency Score of Private Sector Banks

DMU	ICICI	KVB	HDFC	CUB	Axis	Federal	South	LVB
2002	1	1	1	0.845	0.827	0.534	0.587	0.725
2003	0.891	0.921	0.992	0.839	0.793	0.622	0.639	0.73
2004	0.983	1	1	1	0.741	0.692	0.697	0.759
2005	0.97	0.87	1	0.953	0.758	0.684	0.652	0.64
2006	0.986	0.97	0.897	1	0.849	0.809	0.768	0.812
2007	0.945	1	0.904	1	0.84	0.883	0.81	0.835
2008	0.919	1	0.91	0.985	0.864	0.943	0.896	0.815
2009	1	0.881	0.835	0.797	0.892	0.864	0.756	0.82
2010	0.922	0.911	0.909	0.821	0.901	0.879	0.873	0.678
2011	0.96	1	0.964	0.891	0.943	0.865	0.891	0.841
2012	1	0.936	1	0.925	0.998	0.908	0.967	0.802
2013	1	0.953	1	0.902	0.978	0.852	0.851	0.798
Mean	0.96467	0.9535	0.95092	0.91317	0.86533	0.79458	0.78225	0.77125

Figure 3
Annualized Mean Efficiency Score of Private Sector Banks

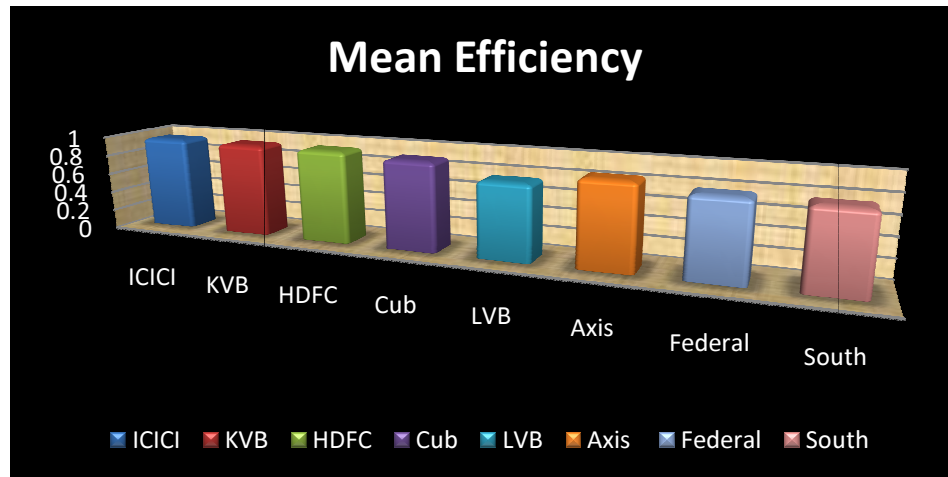


Table4
Descriptive Statistics of Efficiency Score for Private Sector Banks

	MEAN	S.D	C.V	No. of Bench mark Units	RANK
ICICI	0.96467	0.0376	3.89813	4	1
KVB	0.9535	0.04906	5.14577	5	2
HDFC	0.95092	0.05711	6.00611	5	3
Cub	0.91317	0.07523	8.23867	3	4
LVB	0.77125	0.06499	8.426	0	5
Axis	0.86533	0.08141	9.40775	0	6
Federal	0.79458	0.12918	16.2573	0	7
South	0.78225	0.12918	16.5137	0	8

Figure 4
Descriptive Statistics of Efficiency Score for Private Sector Banks

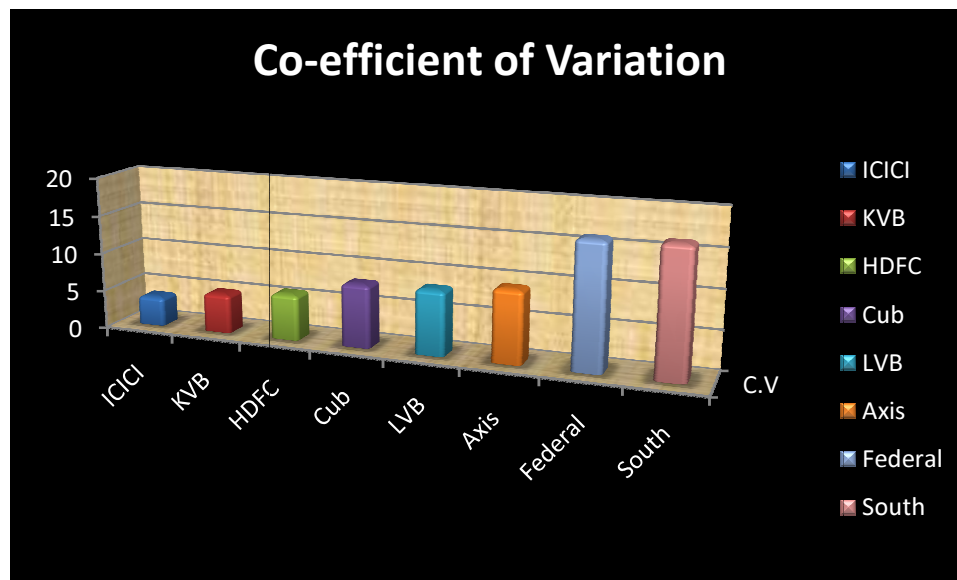


Table 3 and 4 and Figure 3 and 4 highlight, the overall performance efficiency level of private sector banks. It is clear that the mean efficiency score for ICICI Bank, Karur Vysia Bank, HDFC Bank and City Union Bank were above 0.9 and their Co-efficient of Variation is also minimum ranging from the values of three to six only. So a conclusion may be arrived that ICICI Bank, Karur Vysia Bank and HDFC Bank were more efficient in their performance and at the same time their performance efficiency level is also consistent.

Suggestion and Conclusion

The study reveals that nearly half of the sample private sector banks are consistent in their performance over the years. The study recommends that the Government and Reserve Bank of India, and other policy makers in Indian Economic Arena should further investigate with regard to consistency in financial performance, so that the purpose of privatization is more achieved.

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